1. An apparatus used with an electronic camera of the type associated with an electronic shutter which controls an image sensor, the apparatus comprising image size detection circuitry, which is responsive to electrical signals received from the electronic camera, for determining an actual image area within a total image area of the image sensor, and generating a control signal, based on the actual image area, for controlling the electronic shutter.

2. The apparatus of claim 1 wherein the electronic camera has a plurality of predefined shutter response areas, each shutter response area defining different portions of the total image area of the image sensor, said control signal selecting one of the shutter response areas, and said electronic shutter controlling said image sensor in response to the selected one of the shutter response areas.

3. The apparatus of claim 2 further comprising a processor and a memory for storing data associated with the plurality of predefined shutter response areas of the electronic camera.

4. The apparatus of claim 3 wherein the electrical signals includes a luminance component used by the image size detection circuity to determine the portion of the total image area of the image sensor containing the actual image.

5. The apparatus of claim 4 wherein the image detection circuitry includes:

a comparator configured to receive the luminance component of the electrical signals and generate a first output signal representative of a portion of the total image area;

an integrator, connected to the comparator, for receiving the first output signal from the comparator and generating a second output signal representative of the actual image area; and

an analog to digital converter which receives the second output signal from the integrator and generates a digital signal, representative of the actual image area for selecting data associated with one of the plurality of predefined shutter response areas stored in said memory.

6. The apparatus of claim 1 wherein the image sensor includes a charge-coupled device having an array of photoelectric cells.

7. A medical instrumentation system comprising:

a medical viewing instrument for viewing an object under observation;

an electronic camera optically coupled to the medical viewing instrument, for generating electrical signals representative of an actual image viewed by the electronic camera said electronic camera associated with an electronic shutter which controls an image sensor;

image size detection circuitry, responsive to electrical signals received from the electronic camera, for determining an actual image area within a total image area of the image sensor, and generating a control signal, based on the actual image area, for controlling the electronic shutter.

8. The medical instrumentation system of claim 7 wherein the electronic camera has a plurality of predefined shutter response areas, each shutter response area defining different portions of the total image area of the image sensor, said control signal selecting one of the shutter response area, and said electronic shutter controlling said image sensor in response to the selected one of the shutter response areas.

9. The medical instrumentation system of claim 8 further comprising a processor and a memory for storing data associated with the plurality of predefined shutter response areas of the electronic camera.

10. The medical instrumentation system of claim 9 wherein the electrical signals includes a luminance component used by the image size detection circuitry to determine the portion of the total image area of the image sensor containing the actual image.

11. The medical instrumentation system of claim 10 wherein the image detection circuitry includes:

a comparator configured to receive the luminance component of the electrical signals and generate a first output signal representative of a portion of the total image area;

an integrator, connected to the comparator, for receiving the first output signal from the comparator and generating a second output signal representative of the actual image area; and

an analog to digital converter which receives the second output signal from the integrator and generates a digital signal, representative of the actual image area for selecting data associated with one of the plurality of predefined shutter response areas stored in said memory.

12. The medical instrumentation system of claim 7 wherein the image sensor includes a charge-coupled device having an array of photoelectric cells.

13. A method of controlling an electronic shutter used with an image sensor of an electronic camera, the method comprising:

receiving electrical signals from the electronic camera,

determining, in response to the electrical signals, an actual image area within a total image area of the image sensor; and

generating, based on the determined actual image area, a control signal for controlling the electronic shutter.

14. The method of claim 13 wherein the electronic camera has a plurality of predefined shutter response areas, each shutter response area defining different portions of the total image area of the image sensor, and controlling the electronic shutter further includes selecting one of the shutter response areas.

15. The method of claim 14 wherein the electrical signals includes a luminance component for determining the portion of the total image area of the image sensor containing the actual image.

16. The method of claim 15 wherein determining an actual image area occupying a total image area of the image sensor includes:

comparing the luminance component of the electrical signals with a predetermined threshold value and generating a first analog output signal representative of a portion of the actual image area occupying the total image area;

integrating the first output signal and generating a second analog output signal representative of the actual image area; and

converting the second analog signal to a digital signal representative of the actual image area for selecting data associated with one of the plurality of predefined shutter response areas.

17. The method of claim 13 wherein the image sensor includes a charge-coupled device having an array of photoelectric cells.